

CONGRATULATIONS!

Your purchase of an M&S music system is an investment that will provide years of enjoyment and service for your customer. M&S audio products are backed with more than 40 years of experience in the design and manufacture of precision acoustical equipment for the home. To ensure that your customer receives the high-quality music and voice reproduction that the system is designed to deliver, it is important that each step of the installation be done carefully. If you follow the step-by-step illustrated instructions below, the result will be a successful professional-quality installation. In the event you need troubleshooting assistance, please call our technical staff at 1-800-421-1587.

INSTALLATION INSTRUCTIONS FINISH-OUT MC960 SYSTEM



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

SAFETY INSTRUCTIONS

Read instructions - All the safety and operating instructions should be read before the appliance is operated.

Retain instructions - The safety and operating instructions should be retained for future reference.

Heed warnings - All warnings on the appliance and in the operating instructions should be adhered to.

Follow instructions - All operating and use instructions should be followed.

Water and moisture - The appliance should not be used near water - for example; near bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.

Attachments - Do not use attachments not recommended by the product manufacturer as they may cause hazards.

Ventilation - The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built in installation, such as a bookcase or cabinet that may impede the flow of air to the ventilation openings.

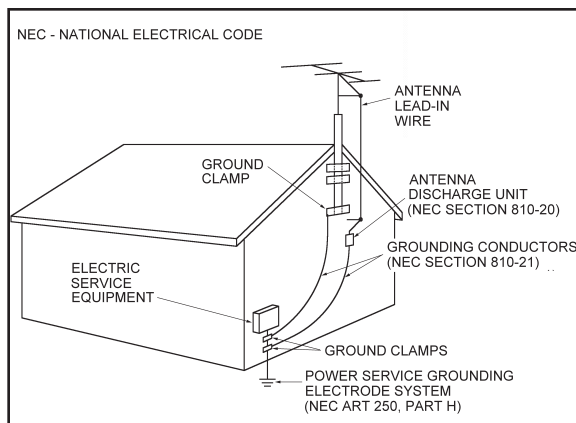
Heat - The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

Power sources - The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

Grounding or polarization - Precautions should

be taken so that the grounding or polarization means of an appliance is not defeated. **Power lines** - An outdoor antenna should be located away from power lines.

Outdoor antenna grounding - If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70 1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure below.



Object and liquid entry - Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

Servicing - The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

Damage requiring service - The appliance should be serviced by qualified service personnel when:

- The power supply cord or the plug has been damaged; or
- objects have fallen, or liquid has been spilled into the appliance; or
- The appliance has been exposed to rain; or The appliance does not appear to operate normally or exhibits a marked change in performance; or
- The appliance has been dropped, or the enclosure damaged.
- When the product exhibits a distinct change in performance - this indicates a need for service.

Replacement parts - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

Safety check - Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

Wall or ceiling mounting - The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

DOs & DONT's

- **USE ONLY M&S SYSTEMS BRAND CABLE** as called out in these instructions. The cable is designed and constructed with electrical specifications necessary for proper audio performance. **IMPORTANT: THE USE OF NON M&S SYSTEMS' BRAND CABLE OR CABLE SUBSTITUTION WILL VOID PRODUCT WARRANTY.** *Note: All M&S Systems' cable has M&S Systems and the part number printed on it!*
- **DO NOT** power up master until all speakers and the amplifier are connected.
- **DO** ensure that all rough-in instructions have been followed before power is applied to system.
- **DO NOT SPLICE CABLES.** Splices are unreliable and defeat the signal isolation properties of the cable.
- **DO NOT COIL OR BUNDLE** the MS4X cable. This will cause electronic feedback.
- If extra cables have been run for possible future speaker additions, care must be taken that these cables do not get connected to the control panel or amplifier unit. Unterminated cables may damage the control panel or amplifier.
- **DO NOT** over-tighten the screws for the volume controls, speakers or the control panel to prevent cracking.

INSTALLATION PROCEDURE

WIRE PREPARATION

At each cable end, strip approximately 4 Inches of jacket (MS5XSC and MS2SXSC) from wires and separate colored wires from each other. Strip 1/2 Inch of insulation from each wire as shown in figure 1. On the MS7XSC, strip 1/4 Inch of insulation from each wire as shown in figure 2.

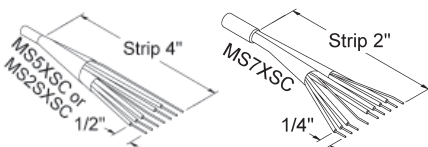


Figure 1 - typical

Figure 2

SATELLITE VOLUME CONTROLS

Connect the shield wire from outside shield of the MS5XSC to the MS2SXSC shield wires. **DO NOT** connect the shield wire for the brown/gray pair at this end of the cable! Wire nut each colored wire to its respective wire as shown in figures 3-6 for the volume control to be used. Connect the BLUE and VIOLET wires to the corresponding terminals of the satellite speaker(s). Mount the volume control to the single gang box using the two screws provided with the volume control.

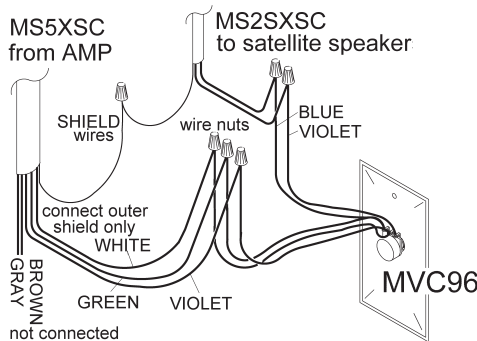


Figure 3 - MVC96 hookup (mono)

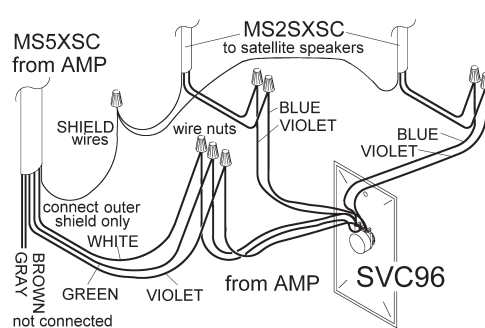


Figure 4 - SVC96 hookup (stereo)

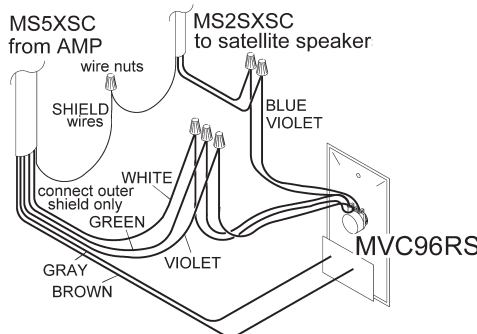


Figure 5 - MVC96RS hookup (mono)

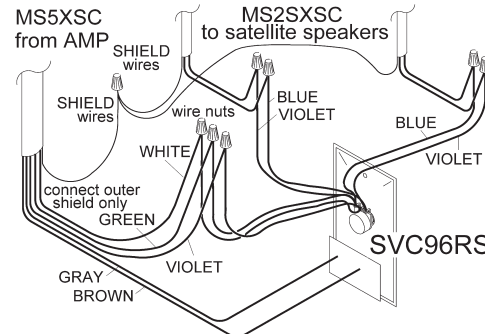


Figure 6 - SVC96RS hookup (stereo)

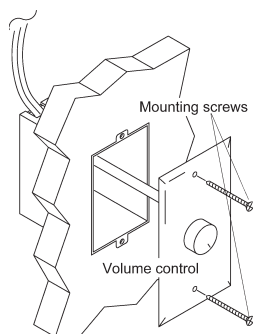


Figure 7 - Mounting

SATELLITE CEILING SPEAKERS

At each speaker location, strip approximately 4 inches of jacket from the MS2SXSC cables and separate the colored wires from each other. Strip 1/2 inch of insulation from each wire. Connect the MS2SXSC cable to the speaker as shown in figure 8. **NOTE:** The bare drain wire from the cable is not connected and should be cut off. On speakers equipped with RED and BLACK terminals, connect the BLUE wire to the BLACK terminal and the VIOLET wire to the RED terminal.

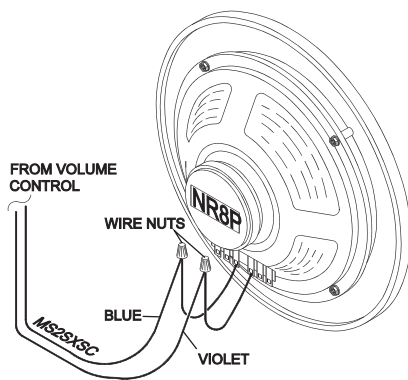


Figure 8 - Ceiling satellite speaker hookup

SATELLITE WALL SPEAKERS

At each speaker location, strip approximately 4 inches of jacket from the MS2SXSC cables and separate the colored wires from each other. Strip 1/2 inch of insulation from each wire. Connect the MS2SXSC cable to the speaker as shown in figure 9. **Note:** The bare drain wire from the cable is not connected and should be cut off. **NOTE:** On speakers equipped with RED and BLACK terminals, connect the BLUE wire to the BLACK terminal and the VIOLET wire to the RED terminal.

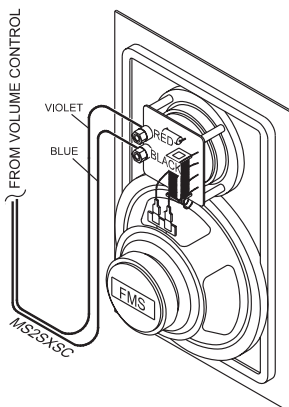


Figure 9 - Wall satellite speaker hookup

REMOTE AMPLIFIER INSTALLATION

AMPLIFIER MOUNTING

The amplifier module will install on a single vertical stud previously marked during rough-in. The vertical height of the amplifier will allow complete coverage over the wall openings for the remote volume controls and control panel wiring. Mark the location of the top mounting keyhole and bottom mounting holes. With the amplifier removed verify the location of the vertical stud by installing the enclosed mounting screws at the marked locations. Once the location of the stud has been verified, remove the screws. Remove the cover from the amplifier. While positioning the amplifier (with cover removed) into position, bring the volume control and preamp cabling through the holes provided. Secure the amplifier to the wall in the marked locations with the screws provided. **FAILURE TO PROPERLY MOUNT THE AMPLIFIER MAY LEAD TO AMPLIFIER DAMAGE AND/OR VOLUME CONTROL/PREAMP WIRING DAMAGE.**

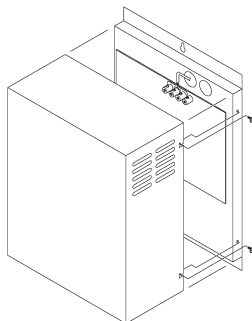


Figure 10

CONTROL HOOKUP

Locate the MS7X5SC cable from the Control Panel (MC960CP). Connect each of the 7 colored wires and shield drain wire from the MS7XSC cable to the 8 pin terminal block as shown in figure 11. Plug the 8 pin connector into the jack labeled PREAMP INTERCONNECT. Locate the MS7X5SC cable from the second power amplifier (MC960PA), if used. Connect each of the 7 colored wires and shield drain wire from the MS7XSC cable to the 8 pin terminal block as shown in figure 11. Plug the 8 pin connector into the jack labeled TO SECOND AMP.

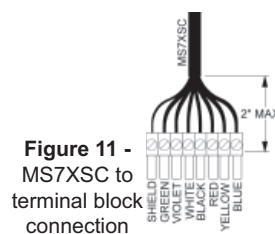


Figure 11 - MS7XSC to terminal block connection

Locate MS2SXSC cable from the Power Amp and connect the BLUE and VIOLET wires to their respective terminals on the Power Amp as shown in figure 12. **Note:** If additional Power Amps are used, connect the shield drain wire of both the MS2SXSC cables from the Control Panel and the additional Power Amp together using a wire nut. Locate MS2SXSC cable from the Control Panel and connect the Blue & Violet wires to their respective terminals on the Power Amp as shown in Figure 12. **Note:** The bare shield wire from the MS2SXSC is not connected and should be cut off, unless additional Power Amps are used. In this case, connect the shield wire going to the next Power Amp, to the drain wire from the Control Panel.

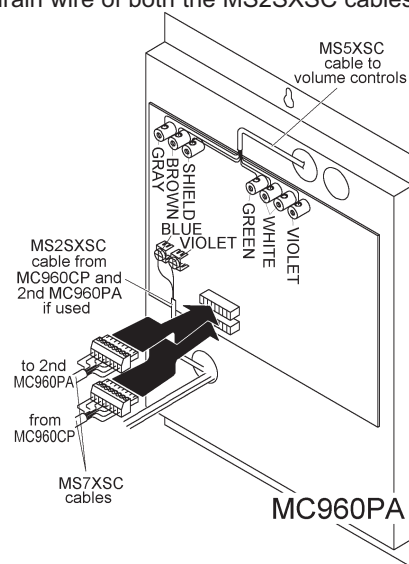


Figure 12 - Amplifier module hookup

Gather all volume control cables (MS5XSC). Pigtail all shield drain wires (bare) from the MS5XSC cables to the SHIELD terminal on the remote amplifier. Then connect each of the color coded wires to its respective terminals as shown in Figure 12.

STEREO/MONO CONFIGURATION

Each MC960PA remote amplifier is equipped with a stereo/mono select jumper. All MC960PA amplifiers are shipped from the factory with this jumper in the STEREO position. If an amplifier is required to drive more than 10 monaural speakers, this jumper must be set to the MONO position. Setting the jumper to the MONO position will cause monaural output to all speakers whether they are connected via stereo controls or mono controls. The jumper setting of one MC960PA amplifier has no effect on other MC960PA amplifiers.

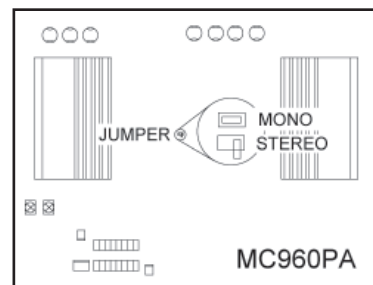


Figure 13 - Mono/Stereo jumper

CONTROL PANEL INSTALLATION

ANTENNA HOOKUP

Carefully remove the master unit face panel insert and disconnect the speaker attached to it. Suspend the master unit from the wall housing by looping the third-hand wire (green wire) over the hook at the top of the housing. Connect the FM dipole twin lead to the FM 300 Ohm terminals on the tuner module. Connect the orange AM antenna wire to the AM terminal on the tuner module as shown in figure 14.

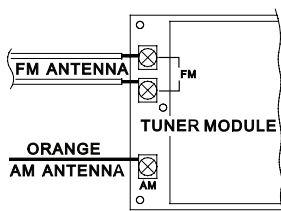


Figure 14 - Antenna hookup

REMOTE AMPLIFIER/WIRELESS

From the 1st Power Amp, wire the MS7XSC as shown in figure 11 to the 8 pin connector P4. Connect the MS2SXSC to the two ROOM REMOTE screws terminals as shown in figure 15. Note: Both the blue wire and the shield wire connect to the same terminal. Install the MCRC wireless remote control receiver in the wall housing behind the Control Panel as shown in figure 15 by removing the adhesive backing and pressing the MCRC firmly in place. Route the antenna wire through the hole provided in the wall housing. Connect the MCRC to the Control Panel as shown in figure 15.

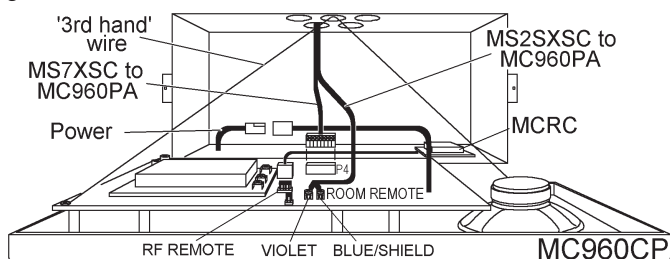


Figure 15

DOOR CHIMES

Connect all Orange wires from the chimes button to the Common terminal. Connect each Yellow wire to each note selection terminal. (Do not connect more than one Yellow wire per note terminal.). Plug in the chime module plug to the 4 pin connector labeled as CHIME on the master unit. Connect the orange & yellow wire at each door chime button. Set the jumpers at P7 per chime operation. See figure 16.

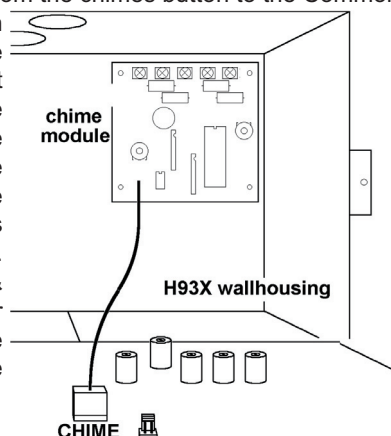


Figure 16

CONNECTING THE MCD6

Connect the Left/Right audio RCA plugs from the MCD6 to the AUX1 L/R jacks, respectively. Connect the 2-pin control cable from the MCD6 to the jack on the MC960 labeled CD INTERFACE

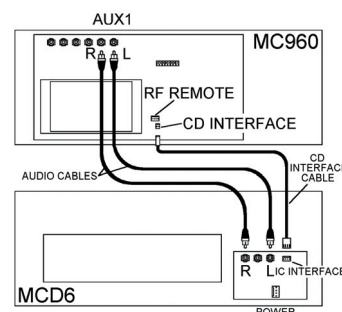
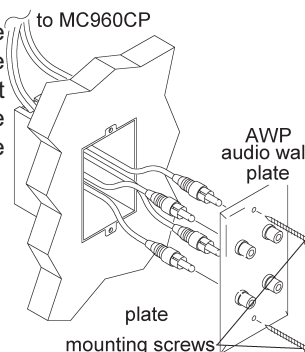


Figure 17 - MCD6 hookup

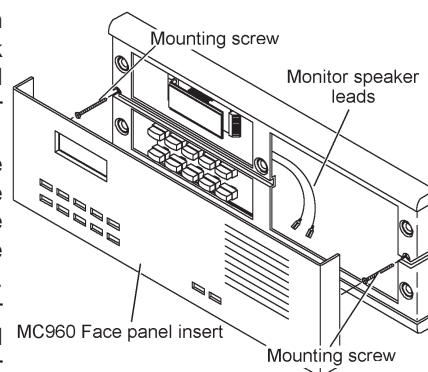
OTHER SOURCES

Plug in the RCA phono plugs to the jacks as marked for the source equipment. The figure to the right shows a typical installation using the AWP/AWPRX audio wall plate installation kit.



BEFORE YOU APPLY POWER!

After wiring has been completed, double check your connections and then connect the power cord from the TE1 transformer to the Control Panel. Secure the Control Panel to the wall housing using the screws provided. Reconnect the master speaker and reinstall insert. Plug-in the power cord for each Power Amp to a 120VAC receptacle.



If you encounter any problems, recheck all connections and check the troubleshooting procedure in the operating instructions. If problems still persist, contact our technical assistance center at 800-421-1587.

M&S SYSTEMS 2-YEAR "NO FAULT" LIMITED WARRANTY

M&S Systems, Inc. warrants for two years (2) all products to be free of factory-caused defects in material and workmanship. M&S Systems, Inc. will repair or replace, at its option, parts and materials at no charge, regardless of the problem. This warranty extends to the original purchaser of the product and to each subsequent owner of the product during the term of this warranty. This NO FAULT warranty covers only the liability described above, and does not include liability for incidental or consequential damages. NOTE: Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.